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Z/028/60/ 000/003/004/005
D253/D302

Equations of plasma...

plasma and neutral gas is explained in terms of interaction (coloumb).
The time τ in an ionized gas has the same meaning as τ_a in a neutral gas. It is assumed that the selected particle, say the electron, moves in the field of one pole particle; the electron has at the beginning the speed V (in relation to the proton at rest), and the electron moves in a hyperbolic path towards the proton (coordinates r, θ in Fig. 1) then

$$(4) \quad r = \frac{D^2 V^2 m}{e} \frac{1}{1 + \epsilon \cos \theta},$$

where D is the distance of the straight line in which lies vector V , from the proton, and

$$\epsilon^2 = 1 + \frac{m^2 D^2 V^4}{e^2}.$$

the excentricity is expressed in
From (5) .. follows $\cos \sigma = 1 - \frac{2}{\epsilon^2}$ (6) (5)

and

(7)

$$\sin \sigma = \frac{2 \frac{m D V^2}{e}}{1 + \frac{m^2 D^2 V^4}{e^2}}.$$

the electron has many collisions, so that $\sin \sigma$ changes, the mean value is 0. $\sin^2 \sigma$

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Equations of plasma...

is always positive. The movement of the charged particle in a homogeneous magnetic field. For mass m is given by

(20) $m \frac{dv}{dt} = e \left(E + \frac{1}{c} v \times H \right),$ where c - the speed of light. This equation is valid for the movement of the particles.

The author further obtains continuity - equation

(33) $\frac{\partial n_i}{\partial t} + \text{div} (n_i v_i) = 0.$

which can be rewritten as

(67) $\frac{\partial \rho}{\partial t} + \text{div} (\rho W) = 0,$

The Maxwell electromagnetic

equation can be written as

(62)

These equations (62) and (67)

together with (72)

$\frac{\partial H}{\partial t} = \frac{c^2}{4\pi\sigma} \Delta H + \text{rot} (W \times H).$

$\text{rot} H = \frac{4\pi}{c} i + \frac{1}{c} \frac{\partial E}{\partial t},$

and (68)

$e \frac{dW}{dt} = - \text{grad} p + \frac{1}{c} i \times H + e g.$

Card 3/4

Equations of plasma...

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are used in solving magnetohydrodynamic problems in the case of
 $\omega \tau \ll 1$ and $n_1 = n_2$.

There are 1 figure and 13 references: 2 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: L. Spitzer, "Physics of fully ionized gases", Interscience publishers, New York, 1956; T.G. Cowling, "Magnetohydrodynamics", Interscience, New York, 1957; T.G. Cowling, "Solar electrodynamics", The Sun, ed. by G. Kuiper, Chicago, 1953; P.L. Bhatnagar et al., Phys. Rev., 94, 511 (1954). X

ASSOCIATION: Astronomický ústav ČSAV Praha, (Astronomical Institute, Czechoslovak AS, Prague)

Card 4/4

HRUSKA, A.

Z/002/60/000/005/005/006
A205/A126

AUTHOR: None given

TITLE: Dissertation

PERIODICAL: Věstník Československé akademie věd, no. 5, 1960, 566

TEXT: The Československá akademie věd, Astronomický ústav (Czechoslovak Academy of Science, Astronomical Institute) granted the title of a Candidate of Science to Promoted Physicist Antonín Hruška, on the ground of a successful defense of his dissertation "Dynamics of the Interplanetary Matter and Interactions Between Stars and the Interplanetary Matter".

✓

Card 1/1

S/124/62/000/001/007/046
D237/D304

AUTHOR: Hruška, A.

TITLE: Plasma oscillations and dynamical friction

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1962,
8, abstract 1B55 (Chekhosl. fiz. zh., 1961, v.
11, no. 4, 268-271) (in English)

TEXT: Propagation of high-frequency longitudinal perturbations in a system consisting of fixed ions and a stream of electrons is considered. During the steady state, the total charge is assumed to be zero. Electron-ion friction is taken into account. It is shown that perturbations may increase with time if electron stream-velocity is significantly higher than their mean thermal velocity. Appearance of magnetic field (due to non-neutralized electron flow) is neglected, but the question of on which occasions magnetic field can be neglected remains unanswered. [Abstracter's note: Complete translation.] ✓

Card 1/1

S/035/62/000/007/032/083
A001/A101

24.2.20

AUTHOR: Hruška, A.

TITLE: Propagation of magnetohydrodynamic waves in an inviscid nonuniform plasma with infinite conductivity

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 36, abstract 7A273 [Byul. astron. in-tov Chekhoslovakii", 1961, v. 12, no. 6, 224 - 228, English; Russian summary)

TEXT: The solution of linearized magnetohydrodynamic equations in a medium with weak non-uniformity (characteristic dimensions are by far larger than wavelength) is written down by making use of the quantum-mechanical method of Wentzel-Kramers-Brillouin. It is assumed that density gradient is perpendicular to magnetic field. The equation solution is investigated in the vicinity of a region where the component of wave vector along the density gradient turns into zero (wave motion changes into aperiodic one). The case of magnetohydrodynamic tunnel effect is also discussed, as well as the peculiar quantization of directions of propagation of magnetohydrodynamic waves in this region. There are 13 references.

✓
B

S. Kaplan

[Abstracter's note: Complete translation]

Card 1/1

S/035/62/000/012/009/064
A001/A101

AUTHOR: Hruška, A.

TITLE: The motion of dust relatively to gas in interstellar space

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 25,
abstract 12A238 ("Byul. astron. in-tov Chekhoslovakii", 1961, v.12,
no. 4, 140 - 141, English; Russian summary)

TEXT: The author considers the problem of relative motion of dust and gas components of interstellar medium. Force affecting dust particles consists of two parts: "friction", caused by interaction with neutral atoms and ions, and electrostatic "friction" which arises when dust particles acquire charge (in H II zones). The author derives the motion equation for dust particles in gravity field (g) in the presence of magnetic (H) and electric (E) fields and light pressure taken into account. The equation was solved under some simplifications. Components of particle velocity, parallel and perpendicular to the magnetic field vector, were found. The author arrives at a conclusion that due to high efficiency of forces (e.g. magnetic field) acting on the gas component, separation of the dust and gas components may occur during a time of about 10^6 years.

Card 1/2

S/269/63/000/002/032/037
A001/A101

AUTHOR: Hruška, A.

TITLE: The fall of meteoric dust through the atmosphere with internal motions

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 2, 1963, 67, abstract 2.51.536 ("Byul. astron. in-tov Chekhoslovakii", 1962, v. 13, no. 1, 27 - 30, English; Russian summary)

TEXT: The author considers the motion of a small meteoric particle in the Earth's atmosphere and estimates the duration of its fall from an altitude of ~100 km on assumption that irregular vertical motions exist in the atmosphere. It is assumed that at altitudes 13 - 100 km, the velocity of vertical displacement of air masses is equal to 10 m/sec. It is shown that the time of particle fall in such an atmosphere differs only slightly from the fall time in a static atmosphere. There are 6 references.

[Abstracter's note: Complete translation]

N. Divari

Card 1/1

S/269/63/000/003/016/036
A001/A101

AUTHOR: Hruška, A.

TITLE: On the radiation generated by longitudinal waves in non-Maxwellian plasmas

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 3, 1963, 34, abstract
3.51.266 ("Byul. astron. in-tov Chekhoslovakii", 1962, v. 13, no. 4,
125 - 127, English; Russian summary)

TEXT: The author investigates the transformation of plasma waves into transverse electromagnetic waves in the case of a plasma with anisotropic pressure. The Boltzman kinetic equation, without a term corresponding to collisions, together with Maxwell equations, are reduced to equations describing plasma oscillations and electromagnetic waves, these equations being interrelated by a term depending on anisotropy and velocity distribution. A simplest case of electromagnetic wave generation by plasma oscillations is considered when velocities of electrons have a dispersion along only one axis. Transverse waves are emitted in perpendicular direction.

S. Kaplan

[Abstracter's note: Complete translation]

Card 1/1

ACCESSION NR: AP4040788

Z/0055/64/014/006/0417/0422

AUTHOR: Hruska, A.

TITLE: Propagation of radio waves across a velocity discontinuity in a zero temperature plasma

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 14, no. 6, 1964, 417-422

TOPIC TAGS: plasma physics, radio wave propagation, high frequency wave, velocity discontinuity, zero temperature plasma

ABSTRACT: The characteristic features of propagation of radio waves across a velocity discontinuity are described. The thickness of the transient layer between points where the velocity is zero and points where it is equal to V is assumed to be much smaller than the wavelength of the electromagnetic field oscillations. As V is much smaller than the speed of light, the author's treatment is non-relativistic. The study is restricted to the zero temperature limit to avoid effects of thermal motions and the problem of stability is

Card 1/2

ACCESSION NR: AP4040788

neglected. The properties of the reflection and refraction of a plane wave on the interface are investigated and it is shown that a transverse wave incident on the interface of a velocity discontinuity generates reflected and transmitted waves. The intensities of reflected and transmitted electric fields are calculated. The author thanked Mrs. E. Dosoudilova for carrying out numerical computations. Orig. art. has: 2 figures.

ASSOCIATION: Geophysical Institute, Czechoslovak Academy of Sciences, Prague

SUBMITTED: 16Sep63

ENCL: 00

SUB CODE: EC, GP

NO REF SOV: 001

OTHER: 006.

Card 2/2

HRUSKA, A.

Plasma waves with collisional dissipation of energy. Biulleten
astron inst 14 no.1:9-11 '63.

1. Astronomical Institute of the Czechoslovak Academy of Sciences,
Prague.

L 3020-66 EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AP5026874

CZ/0023/65/009/001/0053/0060

AUTHOR: Hruska, Antonin ^{uH}

⁴⁴
5

TITLE: A note on the reflection and refraction of damped magnetodynamic waves in the ionosphere ¹²

SOURCE: Studia geophysica et geodaetica, v.9, no. 1, 1965, 53-60

TOPIC TAGS: ^{8, uH} electromagnetic wave, particle interaction, electromagnetic wave reflection, electromagnetic wave refraction, ionosphere

ABSTRACT: The propagation is investigated of damped waves in a weakly ionized gas of zero temperature, assuming a density discontinuity. Formulas are derived for the intensities of the reflected and refracted electromagnetic waves. It is demonstrated that the laws of reflection and refraction are influenced essentially by dynamic interaction between ions or electrons and neutrals. "The author would like to thank Mrs. E. Dosoudilova^{uH} for performing the numerical computations." Orig. art. has 43 formulas and 2 graphs.

ASSOCIATION: ^{uH} Geophysical Institute, Czechosl. Acad. Sci, Prague

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: E3, EM

NO REF SOV: 000

OTHER: 013

JPRS

Card 1/1 ^{uH}

1-55526-65 REC-4/DIR(n)-2/DIR(v)/DIR(w)-2/DIR(h)/DIR(t)/DIR(s)/DIR(r) 1-55526-65
1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb

ACCESSION NO: AP5007391

Z/0055/65/015/003/0158/0169

AUTHOR: Bruska, A.

TITLE: Dissipation of energy of low-frequency waves in a weakly ionized gas

1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb 1-55526-65/55510/Pne-2/Peb

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discussed on the basis of the Boltzmann transport and Vlasov equations. The adiabatic law is replaced by the law of conservation of energy and some results of the macroscopic theory of plasma are reformulated. The analysis is restricted to a weakly ionized gas where the density of the neutral particles is much higher than the electron and ion densities. It is also assumed that the Alfvén wave velocity relative to the ionized components of the gas is much smaller than the speed of light. Such conditions are satisfied in the ionosphere and in many man-made plasmas. Dispersion relations are derived for the case when the waves propagate in the directions of the prevailing magnetic field and perpendicular to it.

Card 1/2

U. 1025-41

ACCESSION NP: AP5007241

Special attention is paid to decay mechanism forcing the gas to assume thermal equilibrium. It is shown that collision exchange of energy between the ions and neutral atoms can greatly influence the dispersion equations of several modes of oscillation. The results are illustrated numerically by the plots of the square of the velocity against frequency for two levels in the ionospheric E region (1.0 and 1.5 M, respectively). It is shown that the velocity exhibits appreciable variation for frequencies corresponding to the range of rapid geomagnetic varia-

tions. The author thanks Mrs. J. Doudalova for the numerical calculations.
Orig. art. has: 2 figures and 63 formulas.

ASSOCIATION: Geophysical Institute, Czechoslovak Academy of Sciences, Prague

FUNCTIONAL: 184-11-1

ENCL: 00

SUB CODE: MI, OP

OTHER: 017

Word 12-11-77

L 07554-07 ENP(k)/ENI(l)/ENP(e)/ENP(t)/ETI IJP(c) JD
ACC NR: AP6019417 (A) SOURCE CODE: CZ/0078/66/000/005/0009/0009

INVENTOR: Hruska, Alois (Engineer; Prague); Kasik, Ivan (Engineer; Prague); Starosta, Ondrej (Engineer; Cercany); Siska, Miloslav (Benesov u Prahy); Valek, Jiri (Doctor of Physics; Prague)

ORG: none

TITLE: [Method for making permanent magnets] CZ Pat. No. PV 1453-65

SOURCE: Vynalezky, no. 5, 1966, 9

TOPIC TAGS: magnet, permanent magnet material, magnetic alloy

ABSTRACT: A method for making permanent magnets having a pole structure by the electric slag smelting of an alloy for permanent magnets is described. The chemical composition of the alloy is 5 to 10% Al, 10 to 27% Ni, 5 to 40% Co, 1 to 10% Cu, 0 to 10% Ti, 0 to 4% Zr, 0 to 4% Nb, 0 to 4% Ta, and a residue of Fe in the crystallizer. The distinguishing feature of the method is that in order to direct the growth of the crystal in the axial direction of the crystallizer, in the direction of magnetization, the current density in the electrode is controlled and kept in the 0.3 to 3.5 A/mm² range through the temperature regime of the electric slag process using slag of chemical composition 40 to 100% CaF₂, 0 to 50% Al₂O₃, 0 to 50% CaO, 0 to 10% SiO₂, 0 to 5% MgO, 0 to 5% TiO₂.

SUB CODE: 09,11/ SUEM DATE: 03Mar65

HRUSKA, R.

Soils of the alluvial forests in central Moravia. p. 29.
SBORNIK. RADA C: SPISY FAKULTY LESNICKE, Brno, No. 1/2, 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

HRUSKA, B.

Forest soils in the Lower Tatra and Slovak Ore Mountains
of the Hron River area and their stratification in relation
to altitude. p. 233.

SBORNIK. RADA C: SPISY FAKULTY LESNICKE. Brno.
No. 4, 1955.

SOURCE: EEAL - LC Vol. 5 No. 10 Oct. 1956

<u>HRUSKA, B.</u>	
Country	: Czechoslovakia J
Category	: Soil Science. Physical and Chemical Properties of Soil
Abstr. Jour.	: Ref. Zhur.-Biologiya No. 11, 1958. No. 48612
Institute	: <u>Braska, Boris</u> Agricultural High School and Faculty of Forestry
Title	: Characteristics of the Gleying Processes in Soil
Orig. Pub.	: Sbor. Vysoke skoly zemed. a Lesn. fak. Brne, 1956, S. No. 1, 55-60
Abstract	: The characteristics of the gleying process in alluvial soils and some physico-chemical properties of gleyed horizons in these soils are examined.--
	*Brno
Cards	: 1/1
Country	: USSR J

HRUSKA, B.

Soil-layer types in forests of the Low Tatras and the Slovak Ore Mountains in the upper valley of the Hron, according to altitude. p. 16 (Lesnický časopis Vol. 2, no. 1, 1956 Bratislava)

SO: Monthly List of East European Accession (EEAL), IC, Vol. 6, no. 7, July 1957. Uncl.

CZECHOSLOVAKIA/Soil Science - Genesis and Geography of Soils.

J-1

Abs Jour : Ref Zhur - Biol., No 9, 1958, 38982

Author : Hruska, B.

Inst :

Title : Buried Submergeable Soils in the Valley of the Middle Stream of Morava River and in the Lower Stream of Dyje River.

Orig Pub : Sbor. Vysoke skoly zemed. a Lesn. fak. Brno, 1956, No 3, 67-74.

Abstract : Results of analyses of the chemical composition of buried soils are given in this study (the composition of a 20% extract of NCl, the content of SiO_2 , of R_2O_3 , of P_2O_5 , of humus and pH H_2O). The composition of buried soils according to horizons indicates an important change of climatic conditions in the Morava river basin in recent times in comparison with those, which existed in the basin of the river Dyje.

Card 1/1

- 2 -

Geologic and petrographic conditions on the Habruvky Forest Reservation near Krtiny. p. 53. (SBORNIK. RADA C: SPISY FAKULTY LESNICKE, No. 1, 1957, Brno, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

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CIA-RDP86-00513R000618230004-7"

CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry.

D

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77093.

Author : Hruska, Boris.

Inst :

Title : Contribution to the Chemistry of the Guano of Bats.

Orig Pub: Casop. mineral. a geol., 1958, 3, No 1, 21-24.

Abstract: The chemical composition of guano from two caves:
 "Great Dagger Hole" near Yavorzhichek on the
 Morava River and "Dark Rock" in the Little Carpathians
 was studied. The analysis results are correspondingly
 the following (in %): SiO_2 - 0.169, 0.169, Fe_2O_3 -
 1.558, 1.105; Al_2O_3 - 7.827, 0.704; MnO - 0.039,
 traces; CaO - 8.622, 0.836; MgO - 0.354, 0.440;
 K_2O - 0.090, 0.023; Na_2O - 0.172, 0.046; P_2O_5 -
 3.650, 0.385; SO_3 - 1.837, 1.719, soluble part -

Card : 1/2

CZECHOSLOVAKIA

HRUSKA, B.

Chair of Geology and Pedology VSZ (Katedra geologie a
pedologie VSZ), Brno

Prague, Casopis pro mineralogii a geologii, No 1, 1965, pp
29-36

"The Dunes of the Rumanian Coastal Lands."

HRUSKA, Genek, general-leytenant.

Radio amateur activities in Czechoslovakia. Radio no.5:14 My '56.
(MLRA 9:7)

1.Predsedatel' TSentral'nogo komiteta SVAZARM.
(Czechoslovakia--Radio operators)

HRISTIA, G. general-leutenant.

Mass defense organization of Czechoslovak patriots. Voen.znan.
31 [i.e.32] no.5:28 My '56. (MIRA 9:9)

1.Zamestitel' ministra natsional'noy obozorny, predsedatel'
TSentral'nogo komiteta Svazarm Chekhoslovatskoy Respubliki.
(Czechoslovakia--Military education)

AUTHOR: Hruška, Čeněk (Grushka, Chenek) Chairman SOV-107-58-4-6/57

TITLE: Strengthening Fruitful Links (Ukreplyat' plodotvornyye svyazi)

PERIODICAL: Radio, 1958, Nr 4, p 6 (USSR)

ABSTRACT: The author reviews the state of amateur radio in Czechoslovakia and calls for closer cooperation with Soviet radio amateur fans.

ASSOCIATION: TsK SVAZARM Chekhoslovatskoy Respubliki (The Central Committee of SVAZARM of the Czechoslovak Republic)

1. Radio--Czechoslovakia 2. Radio operators--Training

Card 1/1

HRUSKA, Emanuel, prof. dr.

Formation and protection of the region as a life environment.
Sbor. zem 69 no.2:89-98 '64

1. Slovak Higher School of Technology, Bratislava, Gottwaldovo
namesti 2.

HRUSKA, E.

"Studies of economic geography aimed at the problems of regional planning", P. 44., (SBORNIK, Vol. 59, No. 1, 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

HRUSKA, E.

~~Reconstruction of historic places and settlements with special regard to the Bratislava Castle area and to the area below the castle.~~

p. 315 (Slovenska akademie vied. Ustav stavebnictva a architektury. Prace. 1954 (published 1956). Bratislava, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

HRUSKA, E.

Methods and aims of area planning; according to a report at the Conference on Area Planning at Smolenice in 1955. p. 99. Ceskoslovenska spolecnost zemepisna, SBORNIK, Praha. Vol. 61, no. 2, 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress
Vol. 5, No. 12, December, 1956.

HRUSKA, E

"Regional planning and economic geography."

GEOGRAFICKY CASOPIS, Bratislava, Czechoslovakia, Vol.II, no. 2, 1959

Monthly list of East Europe Accessions (EEAI), LC, Vol. 3, No. 6, Sept 59
Unclass

HRUSKA, E.

STRASZEWICZ, Ludwik

Poland

no title given

no affiliation given

Warsaw, Przegląd Geograficzny, Vol 34, No 3,
1962, pp 607-68.

Book review:

HRUSKA, E., Development of Urban Construction.
(Vývoj stavby miest), Bratislava 1961, 370 pages.

Pressure losses in diffusion baskets. E. Hrnth, E. Slavček, and
M. Šušter (Ljubljana, 1954, 20, 187-190). Measurements with
different manometers indicated that of the total pressure difference
10% is used to overcome resistance on the screens, 20% in cigarettes,
40% in interconnecting apparatus, and the rest in water and juice
piping and in dirt catchers. Conical screens with side openings have

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increase of the total pressure on the battery would increase through
out. See. Inv. Annex (E. M. I).

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PAGE 1 BOB KERRICK

Page 398

Исследования Института биологии человека, Ленинград, 1956

Scientific Abstracts, reference given to my scientific identification statements as they appear in Scientific Reports given at the Conference on Industrial Electricity held in London, August 6-11, 1958) referred, kindly as electrical engineer, American firm, 1958, 720 p. No. of copies printed not given. No contributors mentioned.

purpose: this collection of reports promotes the use of electric and electronic devices in modernizing industrial plants. It is intended for management and technical personnel of Republic's industry.

[illegible]

DATA OF CONCENTRATION

Polish-Gritko, *Phys. Engineers, Institute for Mechanical Technology, Leningrad*. Cold Working in Electro-Industry. This paper is an abstract from the Soviet periodical "Sovetskoye prikladnoye", No. 3, 1956.

1. Minority, Section, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839,

Albert Vinko, Professor, Engineer, Electrical Engineering Department,
Industrial Application of Telecommunication, 1653

The author describes types and circuits of television systems used for control of industrial processes. There are 4 references, all English.

Poland, Austria, Electrical Engineering Department, Zagreb University.
Control and regulation of electric drives in rolling mills
The author describes operating principles and diagrams of
control and regulation equipment of American and German mills.

Bullin, Ivan, Engineer, Electrical Engineering Department, Zagreb University. Theoretical Modeling and Electronic Computers
The author discusses theoretical problems of computers, modeling, and modeling methods. There are 6 references: 4 English, 1 Czech, and 1 Polish.

Conclusions

AVAILABLE: Library of Congress (INT801.55 1956)

Card 7/7

09-1-60

HRUSKA, J.

"Gyroscopic locomotives." P. 257.

NOVA TECHNIKA. (Rada vedeckych technickych spolecnosti pri Ceskoslovenske akademii ved). Praha, Czechoslovakia, No. 6, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6,
August 1959.
Uncla.

HRUSKA, J.

TECHNOLOGY

Periodical: NOVA TECHNIKA No. 12, 1958

HRUSKA, J. Using the surface-crystallization method in casting sections of radiators for central heating. p. 564

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

HRUSKA, J.; PETRDLIK, M.; DUFEK, V.

Optimum speed of heating and cooling in sintering hard WC-TiC-(TaC)-Co alloys. p. 617. (HUTNICKÉ LISTY, Vol. 12, No. 7, July 1957, Brno, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

Z/056/62/019/003/001/006
1037/1237

AUTHORS: Hruška, J. and Dufek, V.

TITLE: Contribution to the question of protecting atmospheres in powder metallurgy

PERIODICAL: Přehled technické a hospodářské literatury, Hutnictví a strojírenství, v. 19, no. 3, 1962, 159, abstract HS 62-2021. (Techn. Zpr. VUPM, no. 2, 1961, 12-17)

TEXT: The composition of the most important reducing and protecting atmospheres, used in powder metallurgy. The chemistry of catalytic activity of metal powders. Catalytic activity of metal powders upon carbidation. Tests of the preparation of the solid solution WC-TiC, where the influence of catalytically active Cr and Co has been observed. There are 2 tables and 7 references.

[Abstracter's note: Complete translation.]

Card 1/1

HRUSKA, Jan

A new central telephone office for Brno area. Cs spoje 7 no.3:15-16
Mr 162.

1. Jihomoravská krajská správa spoju.

HRUSKA, JAROSLAV.

AGRICULTURE

Hruska, Jaroslav. Luskoviny. [2. opravene a rozsirene vyd.] Praha, Statni zemedelske nakl., 1956. 283 n. (Rostlinna vyroba) [Legumes, 2d rev. and enl. ed.]

DA

Not in DLC

Monthly List of East European Accessions (EEAI), IC, Vol. 8, No. 5,
May 1959, Unclass.

KUBELKA, Vaclav, dr. inz.; GAJDOS, Jan, inz.; ENDERST, Vaclav, inz.;
HRUSKA, Jozef

Economically optimum yield in sodium bisulfite pulping.
Papir a celuloza 19 no. 7:181-183 J1 '64.

1. Research Institute of Paper and Cellulose, Bratislava.

HRUSKA, J., dr.

"Design and the education of mechanical engineers" by F.
Slaughter. Reviewed by J. Hruska. Strojirenstvi 13 no.11:
877 N '63.

HRUSKA, J; CHVOJKA, J.

"New trends in the production of pipes made of nonferrous metals and alloys."

p. 159 (Kutník, Vol. 8, No. 5, May 1958, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 9, September 1958.

HRUSKA, J., dr.

"Mechanization and automation; a collection of papers on experience with introduction of mechanization and automation in machinery enterprises in Kharkov." Reviewed by J.Hruska. Strojirenstvi 12 no.1: 77 Ja '62.

HRUSKA, J., dr.

"Oxidation of metals and alloys" by O. Kubaschewski and B.E. Hopkins.
Reviewed by J. Hruska. Strojirenstvi 12 no.4:318 Ap '62.

HRUSKA, J., dr.

"Plastics in mechanical engineering." Reviewed by J.Hruska.
Strojirenstvi 12 no.7:557 J1 '62.

HRUSKA, J., dr.

"Mechanization of motion" by L.Harrisberger. Reviewed by J.Hruska.
Strojirenstvi 12 no.7:557-558 J1 '62.

HRUSKA, J., dr.

"Dictionary of nuclear physics and nuclear technology" by
R.Sube. Reviewed by J.Hruska. Strojirenstvi 12 no.7:558
Jl '62.

HRUSKA, J., dr.

"From petroleum to plastics" by A. Balada Reviewed by
J. Hruska. Strojirenstvi 12 no.8:637 Ag '62.

HRUSKA, J., dr.

"Water resources management" by K. Ruzicka. Reviewed by
J. Hruska. Strojirenstvi 12 no.8:637 Ag '62.

HREBKA, Jiri

Scientific conference of the Faculty of Building of the Czech Higher
School of Technology, Prague. Vest. Ust. geol. 39 no.6:470 N '64.

HRUSKA, J., dr.

"Heavy duty steam generators" by V.M. Maksimov. Reviewed
by J. Hruska. Strojirenstvi 12 no.8:638 Ag '62.

HRUSKA, J., dr.

"Fluid mechanics" by R.H.F.Pao. Reviewed by J.Hruska. Strojirenstvi
12 no.9:714 S '62.

HRUSKA, Jiri, promovany geolog

Protection of natural resources in investment constructions and the
tasks of Geofond. Geol pruzkum 5 no.3:78-79 Mr '63.

1. Geofond, Praha.

HRUSKA, Jiri, inz.; URBANKOVA, Zdenka, inz.

Disinfection plant of hospital waste water. Vodni hosp 13 no.6:
219-220 '63.

1. Krajsky projektovy ustav, Plzen.

KUNSTATSKY, Jiri, prof. inz. DrSc.; HRUSKA, Jiri, inz.; SEDLACEK, Antonin,
inz.; WERNER, Vlad.

Evaluation of the effect of the Morava River regulation. Vodni
hosp 14 no.2:61-64 '64.

1. Higher School of Technology, Brno (for Kunstatsky). 2. District
Water Resources Agency, Uherske Hradiste (for Hruska). 3. Regional
Water Resources Development and Investment Center, Brno (for
Sedlacek). 4. Distric Water Resources Agency, Hodonin (for Werner).

BARAN, Jan, inz.; HRUSKA, Jiri, promovany geolog

Geofond and the effectiveness of geologic operations. Geol
pruzkum 5 no. 10:303-305 0 '63.

1. Geofond, pobočka v Bratislave, Geofond, Praha.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: [not given]

Source: Prague, Sbornik Československé společnosti zeměpisné, Vol 66, No 4, 61,
pp 326-344.

Data: "Geomorphology and River Terraces on the Course of the Elbe River in Central
Bohemia."

GPO 981643

~~FOR~~ HRUSKA, JIRI

F.

CZECHOSLOVAKIA/Laboratory Equipment, Apparatus, Their
Theory, Construction and Application.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46522

Author : Zdenek Spurny, Jiri Hruska

Inst : -

Title : Chemical Dosimeter of Fe^{2+}/Fe^{3+} type.

Orig Pub : Jaderna energie, 1957, 3, No 12, 401-405

Abstract : The properties of the ferrosulfate dosimeter (D) under
the action of soft x-rays were studied. The D is a l.
 10^{-3} M solution of $(NH_4)_3Fe(SO_4)_2 \cdot 6H_2O$ in 0.8 n. H_2SO_4 .

The concentration of Fe^{2+} and Fe^{3+} is determined by
usual methods and calorimetrically. The Fe^{3+} concen-
tration in the solution changes irreproducibly during
the first 5 hours after the solution preparation in
consequence of the spontaneous oxidation of Fe^{2+} .
After that the change is insignificant, but several

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CZECHOSLOVAKIA/Laboratory Equipment, Apparatus, Their
Theory, Construction and Application.

F.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46522

days later the solution becomes little useful for dosimetric measurements. The quantum yield (QY) of the process is constant (with an accuracy to 10%) at doses above 1000 Roentgen units and is equal to 21 atoms per 100 ev. QI is greater, if the doses were less, and is reproducible with the accuracy of up to 30%. The QY of 40 atoms per 100 ev corresponds to a dose from 0 to 300 Roentgen units. The possibility of the D application at weak intensities down to 1.8 Roentgen units per min. was established. After the irradiation has been discontinued, the Fe^{3+} concentration rises insignificantly in the duration of several minutes. The conclusion was arrived at that at doses above 1000 Roentgen units the described D is more convenient than the ionization one.

Card 2/2

SPURNY, Zdenek; ZAMEČNIK, Jiri; HRUSKA, Jiri

Chemical dosimeter in ionizing radiotherapy. I Possibility of use. Česk.
rentg. 13 no.3:188-191 June 59.

1. Ústav jaderného výzkumu ČSAV, doz. odd., vedoucí prof. dr. F. Behounek
Onkologický ústav v Praze, ředitel MUDr. F. Vádura. Z.S., Praha 8, Onkolog.
ústav Praha 8, Na Truhláře 100.
(RADIOTHERAPY, appar. & instruments
dosimeter, chem. (Cz))

ACC NR: AP6027201

SOURCE CODE: CZ/0055/66/016/005/0446/0453

AUTHOR: Hruska, K.

ORG: Department of Physics, University of Khartoum, Sudan; Technical College of Mechanical and Textile Engineering, Liberec, Czechoslovakia)

TITLE: The rate of propagation of ultrasonic waves in ADP in Voigt's theory

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 16, no. 5, 1966, 446-453

TOPIC TAGS: ultrasonic wave propagation, elasticity, crystal property

ABSTRACT: The Laval-Raman theory of the elastic properties of a crystal is primarily based on the difference in the rates of propagation of shear ultrasonic waves v_{zx} and v_{xz} in ADP crystals. The author has attempted to obtain a similar difference in these rates by use of the old Voigt theory but employing the perfected computation methods of Lawson and Pailloux. The calculations, together with an estimate of the influence of second-order effects was examined. When calculating the propagation velocities by means of Lawson's method, no difference in their values was obtained; the calculations according to the Pailloux concept yielded

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ACC NR: AP6027201

5

different values. The difference, however, is far below the limits that could be proved experimentally. It was found that the influence of second order effects can be considered as the main possible source of difference between the two velocity values. Even so, the difference would not be greater than 0.1%. The author thanks Senior Lecturer L. Janik for cooperation in the measurements, Assistant Professor J. Tichy for providing his measurement results and some literature, Technician R. Suchy for assistance in adapting experimental equipment, and Professor P. A. O'Brien and Mr. B. Sychra, head of the Czechoslovak Commercial Section in Khartoum, for help in the study. Orig. art. has: 20 formulas. [KP]

SUB CODE: 20/ SUBM DATE: 21Oct65/ ORIG REF: none/ SOV REF: 002/
OTH REF: 012

hs

Card 2/2

BRUSKA, K.; Chair of Medical Chemistry, Veterinary Faculty, College of Agriculture (Katedra Lek. Chemie Veterinarni Fakulty VSZ), Brno.

"Possibilities of a Methodical Investigation of Inorganic Phosphatase in the Plasma of Semen."

Prague, Ceskoslovenska Fysiologie, Vol 15, No 5, Sep 66, pp 377 - 378

Abstract: The determination of the activity of the enzyme was made using pyrophosphates containing P^{32} ; after the reaction the resultant orthophosphate was separated chromatographically and the activity determined automatically. This method may be used for the determination of reaction kinetics, optimum pH, activators, and inhibitors. Homogeneity of the enzyme is studied by electrophoresis. The activity of the enzyme may be determined by using 0.02M pyrophosphate concentration at pH 8.45, incubating for 30 minutes, and detecting by a suspension of Sephadex in a suitable buffer. The method may be used with other enzymes. 2 Western, 1 Czech reference. Submitted at 3 Days of Physiology of Domestic Animals at Liblice, 10 Dec 65.

1/1

- 85 -

BRUSKA, Kamil, in:.

Calculation of the chain substitution on the Ural 2 automatic computer. Doprava no. 2:132-135 '64.

HRUSKA, K.

Determining the influence of rotating masses on the motion of the train.

P. 106 (Železniční Technika) Vol. 5, No. 4, Apr. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

34691

Z/037/62/000/001/004/007
E197/E535

9,2/80 (1063, 1142, 1331)

AUTHOR: Hruška, K.

TITLE: The influence of direct electric fields on the oscillation frequency of quartz resonators and its dependence on the orientation of the quartz crystal

PERIODICAL: Československý časopis pro fyziku, no.1, 1962, 35-38
+ 1 plate

TEXT: In a previous note (Ref.3: Czech. J. Phys. B11, 1961) the effect of a d.c. field was pointed out and it was shown that the change in frequency is directly proportional to the strength of the electric field; the effect of cutting angle was also mentioned. In the present work the effect of cutting angle on the frequency of longitudinal oscillations is investigated in detail. For that purpose a set of six quartz rods were produced: 50 mm long, 5 mm wide, 0.7 mm thick, one of each with an angle of cut of 40, 60, 80, 100, 120 and 140°, respectively. Both large surfaces were covered with a silver film and used as electrodes. To prevent the occurrence of a discharge across the thickness of the rod, a bare surface of 0.5 mm was left along the four sides of the oblong. The rods were placed into tubes, in which the air

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The influence of direct ...

Z/037/62/000/001/004/007
E197/E535

was at atmospheric pressure and kept at constant temperature. The measured and calculated frequency gave concordance at 20°C and the first, third and fifth harmonics were determined at 20 and 70°C. An electric field of $\pm 3 \cdot 10^6 \text{ Vm}^{-1}$ was obtained by using about $\pm 2150 \text{ V}$, measured with an accuracy of $\pm 50 \text{ V}$. The frequency was determined against a stable generator, using cathode-ray tube display. The ratio of $\Delta f/f$ was evaluated in which Δf is the effect of the field and f the frequency without the field. Fig.2 shows tests at 20°C; the symbols in the graph signify the results obtained with each of the three harmonics (⊙ - fundamental, × - third and Δ - fifth harmonic). [Abstractor's note: The factor 10^5 of the vertical coordinate should read 10^{-5} .] There are 3 figures and 1 table. X

ASSOCIATION: Katedra matematiky a fyziky Vysoké školy strojní a textilní, Liberec
(Department of Mathematics and Physics, School of Engineering and Textiles, Liberec)

SUBMITTED: June 21, 1961
Card 2/2

HRUSKA, K.

Quadratic dependence of quartz polarization on mechanical stress.
Cs cas fys 12 no. 2:189-193 '62.

1. Katedra matematiky a fyziky, Vysoka skola strojni a textilni,
Liberec.

TITLE: Bruska, K.
 AP4038554
 SOURCE: Nonlinear equations of state of second-order electromechanical effects
 TOPIC TAGS: Czechoslovakisky fizicheskiy zhurnal, v. 14, no. 5, 1964, 309-321
 piezoelectric material, piezoelectric, piezoelectric crystal, solid state physics,
 quartz, piezoelectric coefficient
 ABSTRACT: The author found a general relation for the influence of the electric
 field on the elastic coefficients in the first approximation to second-order
 electromechanical effects. Study proceeded from a system of linear piezoelectric
 equations of state in differential form

$$dS_A = \frac{\partial S_A}{\partial T_H} dT_H + \frac{\partial S_A}{\partial E_H} dE_H$$

$$dP_K = \frac{\partial P_K}{\partial T_H} dT_H + \frac{\partial P_K}{\partial E_H} dE_H$$

(1)

ACCESSION NR: AP4038554

The partial derivatives

$$\frac{\partial S_A}{\partial T_\mu}, \frac{1}{\epsilon_0} \frac{\partial P_k}{\partial E_\mu} \text{ and } \frac{\partial S_A}{\partial E_\mu} \text{ or } \frac{\partial P_k}{\partial T_\mu}$$

are called elastic coefficients, dielectric susceptibilities and piezoelectric coefficients, respectively. When equations (1) and (2) are used for practical calculation, the above partial derivatives are replaced by fixed values of material constants which are in best correspondence to the state when the mechanical stresses and the electric field intensity in the material are equal to zero. Equations (1) and (2) can then be expanded into the form

$$dS_A = \left[\left(\frac{\partial S_A}{\partial T_\mu} \right)_0 + \left(\frac{\partial^2 S_A}{\partial T_\mu \partial T_\nu} \right)_0 T_\nu + \left(\frac{\partial^2 S_A}{\partial T_\mu \partial E_\nu} \right)_0 E_\nu \right] dT_\mu + \left[\left(\frac{\partial S_A}{\partial E_\mu} \right)_0 + \left(\frac{\partial^2 S_A}{\partial E_\mu \partial T_\nu} \right)_0 T_\nu + \left(\frac{\partial^2 S_A}{\partial E_\mu \partial E_\nu} \right)_0 E_\nu \right] dE_\mu \quad (3)$$

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$$dP_i = \left[\left(\frac{\partial P_i}{\partial T_j} \right) + \left(\frac{\partial^2 P_i}{\partial T_j \partial T_k} \right) T_k + \left(\frac{\partial^2 P_i}{\partial T_j \partial E_l} \right) E_l \right] dT_j + \left[\left(\frac{\partial P_i}{\partial E_m} \right) + \left(\frac{\partial^2 P_i}{\partial E_m \partial T_j} \right) T_j + \left(\frac{\partial^2 P_i}{\partial E_m \partial E_l} \right) E_l \right] dE_m. \quad (4)$$

The nonlinear piezoelectric equations of state (3) and (4) can be simplified and written in integral form

$$S_{\lambda} = s_{\lambda \mu} T_{\mu} / d_{m \lambda} E_m / \frac{1}{2} t_{\lambda \mu \nu} T_{\nu} T_{\mu} / \epsilon_{\lambda \mu \nu} T_{\mu} E_m / \frac{1}{2} q_{m \lambda} E_m E_l \quad (5)$$

$$P_k = d_{k \mu} T_{\mu} / \epsilon_{0 k m} E_m / \frac{1}{2} r_{k m l} E_l E_m / \frac{1}{2} \epsilon_{\mu k \nu} T_{\nu} T_{\mu} / q_{k m \mu} E_m T_{\mu}. \quad (6)$$

The relations between the second-order electromechanical effects were used for a comparison of the orders of various quantitative results. No basic disagreement was observed. The direct observation of the mechanical stress and electric field effects on the piezoelectric coefficients in the direct piezoelectric effect might be of some support to the hitherto known results in a new way. Both of these effects can influence the final polarisation value by a maximum of 0.1%, which

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ACCESSION NR: AP4038554

Makes their observation more difficult. "I am greatly indebted to Dr. J. Tichy and V. Janovec, CSc, for a number of valuable comments which helped to improve my paper." Orig. art. has: 30 equations and 1 table.

ASSOCIATION: Chair of Physics, Engineering and Textile College, Liberec

SUBMITTED: 17Jun63

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: EM, EE

NO REF SOV: 000

OTHER: 021

Card 4/4

Z/037/63/000/001/001/008
E140/E135

AUTHOR: Hruška, Karel

TITLE: Change of elastic constants of quartz in an electric field

PERIODICAL: Československý časopis pro fysiku, no.1, 1963, 1-7

TEXT: Nonlinear piezoelectric effects in quartz and potassium tartrate crystals were studied. It is proposed that the second-order change in the tensor of elastic coefficients in quartz in the presence of polarization fields E_1 , E_2 and E_3 is given in the general case by 23 non-vanishing components of $\varepsilon_{\lambda\mu\nu}$, of which only 8 are independent. A method is described for measuring certain of these components, and some experimental results are given. If

$$\varepsilon_{221} = \left(\frac{\partial s_{22}}{\partial E_1} \right)_{E=0}, \quad \varepsilon_{241} = \left(\frac{\partial s_{24}}{\partial E_1} \right)_{E=0}, \quad \varepsilon_{341} = \left(\frac{\partial s_{34}}{\partial E_1} \right)_{E=0}$$

Card 1/2 $\varepsilon_{441} = \left(\frac{\partial s_{44}}{\partial E_1} \right)_{E=0}$ and $\varepsilon_{131} = \left(\frac{\partial s_{13}}{\partial E_1} \right)_{E=0}$

Change of elastic constants of ... Z/037/63/000/001/001/008
E140/E135

then the correction terms measured for quartz are given by the following table:

$$g_{221} = 5.8 \times 10^{-23} N^{-1} V^{-1} m^3$$

$$g_{241} = -24.6 \times 10^{-23} N^{-1} V^{-1} m^3$$

$$g_{341} = -28.9 \times 10^{-23} N^{-1} V^{-1} m^3$$

$$g_{441} - 2g_{131} = -20.4 \times 10^{-23} N^{-1} V^{-2} m^3$$

The relative probable error of these measurements does not exceed 20%. Certain conclusions are drawn from this work concerning more stable frequency standards. There are 2 tables.

ASSOCIATION: Katedra matematiky a fyziky Vysoké školy strojní a textilní v Liberci
(Department of Mathematics and Physics, Machinery and Textiles College, Liberec)

SUBMITTED: January 2, 1962

Card 2/2

HRUSKA, Karel, CS.

Influence of a direct current electric field on the frequency of
CT and DT cut piezoelectric quartz resonators. Sborník č. 25
no. 12: 715-718. 1961.

1. Chair of Physics of the Higher School of Mechanical and Textile
Engineering, Liberec. Submitted Jan. 29, 1961.

HRUSKA, K.

Tensor of polarizing correction terms of quartz elastic coefficients. Chekhosl fiz zhurnal 13 no.4:307-308 '63.

1. Katedra fyziky, fakulta strojniho a textilniho inzenyrstvi, Liberec.

L 1722-66

ACCESSION NR: AP5021077

CZ/0039/64/025/012/0715/0718

AUTHOR: Bruska, Karel (Candidate of sciences, Member of physic dept)

TITLE: Influence of a d-c electric field upon piezoelectric quartz resonators of cuts CT and DT

SOURCE: Slaboproudy obzor, v. 25, no. 12, 1964, 715-718

TOPIC TAGS: direct current, electric field, quartz, piezoelectric crystal, resonator

ABSTRACT:[author's English summary, modified]: The change in the frequency of piezoelectric quartz resonators when polarized by applying a d-c voltage to the exciting electrodes is due mainly to the change in the values of the constants of elasticity in the polarizing field. Only a very small influence of the polarizing voltage upon frequency may be observed in CT and DT cut square quartz resonators and in surface-shear type resonators of YXl₁ orientation. This is caused by the fact that in the first approximation no change occurs in the dimensions of these resonators, nor in the constants of elasticity. The computation procedure may be used to estimate the influence of polarizing voltage upon the frequency of other resonators as well. Orit. art. has: 4 formulas, 2 graphs and 1 table.

Card 1/2

L 1722-66

ACCESSION NR: AP5024077

ASSOCIATION: Vysoka skola strojni a textilni, Liberec (Advanced School of Mechanical and Textile Engineering)

SUBMITTED: 29Jun64

ENCL: 00

SUB CODE: EM

NR REF SOV: 000

OTHER: 011

JPRS

Card 2/2

ACC NR: AP6031675

SOURCE CODE: CZ/0042/66/000/003/0161/0167

AUTHOR: Hruska, Karel (Graduate physicist; Candidate of sciences; Special assistant);
Tichy, Jan (Docent; Doctor); Zelenka, Jan (Engineer; Candidate of sciences)

ORG: [Hruska] Department of Physics, Faculty of Sciences, University of Khartoum, Sudan; [Tichy] Department of Physics, Technical Institute of Machinery and Textiles, Liberec (Vysoka skola strojni a textilni, Katedra fyziky); [Zelenka] Tesla Hradec Kralove, n.p., Hradec Kralove

TITLE: Influence of the DC electrical field on the resonance frequency of DKT piezoelectric resonators

SOURCE: Elektrotechnicky casopis, no. 3, 1966, 161-167

TOPIC TAGS: piezoelectric crystal, electric field, direct current

ABSTRACT: Just as in the case of quartz piezoelectric resonators it was observed with DKT resonators that the DC electrical field influences their resonance frequency. The temperature dependence of that influence was investigated. From experimental measurements the components g_{241} and g_{341} of the polarization correction tensor of the elastic coefficients were calculated for DKT and proved to be more than order larger than the corresponding known components of natural quartz. This paper was presented by K. Cernik. The authors thank workers of Department of Physics, B. Kantur and Scientific Aspirant, Engineer K. Dadour for assistance with the measurements and calculations. Orig. art. has: 1 figure, 8 formulas and 2 tables. [Based on authors' Eng. abst.] [JPRS: 36,644]

SUB CODE: 09 / SUBM DATE: 15Jun65 / ORIG REF: 012 / OTH REF: 003

Card 1/1

0919 0275

HRUSKA, LADISLAV

Semenarske dilce. (Vyd. 1.) Praha, Statni zemedelske nakl, 1954. 145 p.
(Za vysoke vynosy, za vysokou uzitkovost) (Experimental seed plots. 1st.
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SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

Hruska, I.

Hruska, I. Effect of inter-row cultivation on the potato field. P. 284
Vol. 3, no. 6, 1956
VESTNIK, Praha
CZECHOSLOVAKIA

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) VOL 6 NO 4--APRIL 1957

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VESTNIK. Vol. 3, no. 10, 1956

Praha, Czechoslovakia

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Vol. 6, No. 17, Sept . 1956

MECHANISACE ZEMEDLSTVI.

AGRICULTURE

Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 3, March 1957

HRUSKA, L.

"Solved problems are helping our agricultural practice."

P. 660. (Vestnik. --Praha, Czechoslovakia.) Vol. 4, No. 11/12, 1957

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 5, May 1958

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"Conference on potato breeding and the struggle against unwanted growth."

p. 239 (Vestnik, Vol. 5, no. 5, 1958, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 9,
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HRUSKA, Ladislav, inz. dr.

For further development of Czechoslovak potato cultivation.
Vest ust zemedel 11 no. 7:280-283 J1 '64.

HRUSKA, Ladislav, Inz.Dr.

Solved research tasks in potato growing. Vestnik CSAZV 7 no.11:
605-608 '60. (EEAI 10:3)

1. Reditel Vyzkumneho ustavu bramborarskeho Ceskoslovenske akademie
zemedelskych ved, Havlickuv Brod.
(Czechoslovakia--Potatoes)

STEJSKAL, Jan; PLESNIK, Jan; HRUSKA, Ladislav; SVOBODA, Jaroslav; NAJMR, Stanislav; PREININGER, Miroslav; HAUNER, Frantisek; BENDA, Josef, inz.; KRAJCOVIC, Vladimir; VLCEK, Kvetoslav; KRBlich, Jan; CERNY, Ladislav, Dr.; DVORACEK, Miroslav, inz. dr.; CHYTRA, Frantisek, inz.; FOLTYN, Jiri; VYSKOT, Miroslav; STAMBERA, Jaroslav, C.Sc. Doc.Inz.; KOSIL, Vladimir; STUCHLIK, Jaroslav, Inz.; NAKLADAL, Jaroslav, Inz.; RICHTER, Lev, MVDr.

Statements of directors of institutes, and of managers of workplaces of the Czechoslovak Academy of Agricultural Sciences. Vestnik CSAZV 8 no.8/9:496-531 '61.

1. Dopisujici clen Ceskoslovenske akademie zemedelskych ved (for Stejskal, Plesnik, Hruska, Svoboda, Najmr, Preininger, Hauner, Benda, Krajcovic, Krblich, Dvoracek, Foltyn, Vyskot, Kosil) 2. Clen redakcni rady Vestniku Ceskoslovenske akademie zemedelskych ved (for Plesnik, Preininger, Foltyn, Vyskot) 3. Reditel Vyzkumneho ustavu zivocisne vyroby Ceskoslovenske akademie zemedelskych ved v Uhrinevsi (for Dvoracek) 4. Reditel Ustavu pro vedeckou soustavu hospodareni Ceskoslovenske akademie zemedelskych ved v Praze (for Benda)

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1. Dopisující člen Československé akademie zemědělských věd;
ředitel Vyzkumného ústavu bramborářského Československé
akademie zemědělských věd, Havlíčkův Brod.

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1. Vyzkumny ustav bramborarsky, Havlickuv Brod.

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HRUSKA, S.

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BERAN,J.; VYSKOCIL,J.; HRUSKA,V.; REJHA,J.

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tumors of the digestive system. Cas.lek. cesk. 103. no.4:
89-93 24 Ja'64.

1. Rentgen. oddeleni nemocnice v Liberci (vedouci: MUDr.
J.Vyskocil ; Chirurg. oddeleni nemocnice v Jablonci
(vedouci:MUDr. V.Hruska) a Chirurg. oddeleni nemocnice
v Liberci (vedouci MUDr. V.Drasnar).

Nutrition

CZECHOSLOVAKIA

UDC: 616-056.5-07:355.1

HRUSKA, Vaclav, LtCol, Dr; TOCIK, Michal, LtCol, Dr; HARANT, Josef, LtCol, Dr

"Results of a Study of the Nutrition of Borderguard Units."

Prague, Vojenske Zdravotnicke Listy, Vol 35, No 5, Oct 66, pp 199-202

Abstract [Czech, Russian and English summaries, modified]: The diet and nutritional state of borderguard units in spring were studied. Laboratory examinations showed that improper technology in food preparation reduced the nutritional value of the food to 18 percent below the dietary allowance. Blood tests showed vitamin C insufficiency. Levels of vitamin A and carotene were barely adequate. Two Western and 10 Soviet-bloc references.

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